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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/649,708	08/28/2003	Meir Morag	453/04882	6773

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EXAMINER

HOLTON, STEVEN E

ART UNIT	PAPER NUMBER
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2629

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/08/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/649,708

Applicant(s)

MORAG ET AL.

Examiner

Steven E. Holton

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 December 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11, 13-15, 17-29, 31, 34, 36-42, 53-56, 58-63 and 67-73 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-11, 13-15, 17-29, 31, 36-42, 53-56, 58, 59, 64, 66, 67 and 72 is/are allowed.
- 6) ☒ Claim(s) 60, 61, 68-71 and 73 is/are rejected.
- 7) ☒ Claim(s) 62 and 63 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This Office Action is made in response to applicant's amendment filed on 12/21/06. Claims 1-11, 13-15, 17-29, 31, 34, 36-42, 53-56, 58-63, and, 66-73 are currently pending in the application. An action follows below:

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claim 73 is rejected under 35 U.S.C. 102(b) as being anticipated by Yoshida et al. (USPN: 5854881), hereinafter Yoshida.

Regarding claim 73, Yoshida discloses a computer input device with a transparent arrangement of sensors (Fig. 7, elements 210 and 202; col. 27, lines 46-51) and an arrangement of amplifiers for simultaneously producing differential signals associated with outputs of the sensors, the signals based on the difference between two outputs and the device uses the signals to determine the location of an indicating object (Figs. 36 and 37, elements 311 and 312; col. 55, lines 29-46; col. 41, lines 7-24). The signals produced by amplifiers 311 and 312 measure the differential between two sensors that are part of the grid used by Yoshida. The measured differentials are then used by the device to determine the location of the object relative to the sensor array.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 60, 61, and, 69-71 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshida in view of Weiner et al. (WO 02/01791), hereinafter Weiner.

Regarding claim 60, Yoshida discloses a display device with a transparent arrangement of sensors (Fig. 7, elements 201 and 202; col. 27, lines 46-51) located at a electronically refreshable display screen. However, Yoshida fails to disclose, "wherein said object is a passive object, the digitizer further comprising an excitation arrangement located around said screen for sending an excitation signal to said object, thereby to energize said object to generate an electric field."

Weiner discloses an object position locator with a passive object (Figs. 12 and 13, element 18) with an excitation arrangement (Fig. 13, element 82) that sends an excitation signal to the object and the object then creates an electric/magnetic field that is sensed by the coil elements (Figs. 12 and 13, elements 62 and 66; page 20, final paragraph continuing on page 21).

At the time of invention it would have been obvious to one skilled in the art that the location detection system of Yoshida could be modified to use the excitation system described by Weiner. The motivation for doing so would be to provide the use of a passive input object rather than an active object. This would remove the need for

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providing a battery or other power supply to the input object and the system described by Weiner further allows for the use of multiple identifiable tokens that can all be activated using the excitation coil to measure multiple positions. Thus, it would have been obvious to one skilled in the art that the amplifier measuring techniques of Yoshida could be combined with the excitation coil system of Weiner to produce the device as described in claim 60.

Regarding claim 61, Weiner discloses using a microcontroller (Fig. 15, element 100) to produce the signal to be transmitted by the system (page 23, final paragraph leading to page 24). At the time of invention it would be obvious to one skilled in the art that the frequency, amplitude and duration of the pulse generated by the microprocessor could be set to any desired values of frequency, amplitude or duration making the system able to generate signals with dynamically variable frequency, amplitude and duration.

Regarding claim 68, the claim includes an excitation arrangement which is the same as provided in claim 22. Therefore, the combination of Yoshida and Weiner read on the limitations of claim 68.

Regarding claim 69, Weiner discloses using a microcontroller (Fig. 15, element 100) to produce the signal to be transmitted by the system (page 23, final paragraph leading to page 24). At the time of invention it would be obvious to one skilled in the art that the microprocessor could change properties of the signal to be transmitted from the excitation arrangement.

Regarding claim 70, the Examiner takes Official Notice that transparent organic conductive foils are well known in the art and that it would be a matter of design choice for one skilled in the art to use an organic foil as one of the conductors for the input device.

Regarding claim 71, Yoshida discloses using a grid of straight line conductors (Fig. 34, elements 314 and 315).

Response to Arguments

4. Applicant's arguments, see pages 12-14, filed 12/21/06, with respect to claims 1-11, 13-15, 17-29, 31, 34, 36-42, 53-56, 58-63, and, 66-71 have been fully considered and are persuasive in view of the amendments to the claims. The rejections of claims 1-11, 13-15, 17-29, 31, 34, 36-42, 53-56, 58, 59, 62, 63, 66, and 67, have been withdrawn.

The Examiner agrees with the presented arguments based on the amended claims regarding the arrangement of amplifiers and sensor outputs being dedicated. That is each sensor output and amplifier is connected in an unchanging fashion. The prior art of Yoshida uses amplifiers with a switching arrangement to select between different sensor outputs in a sequence to determine object locations. The Examiner disagrees with the arguments that Yoshida does not measure the outputs from more than one sensor at a time. The differential measurement of Yoshida is made between the output of two sensors at each time frame, but the selected sensors are changed in a sequence so that all sensors can be selected in order. This is different than the present

arrangement wherein many amplifiers are used so that all outputs may be simultaneously polled, but Yoshida does poll sensors simultaneously in order to measure differential signals.

Allowable Subject Matter

5. Claims 1-11, 13-15, 17-29, 31, 34, 36-42, 53-56, 58, 59, 66, 67, and 72 are allowed.

Claims 62 and 63 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

The present invention is directed to a transparent sensor arrangement to be used with an electronic display device. Independent claims 1, 53, 54, and 58 identify the uniquely distinct features an arrangement of transparent sensors and amplifiers with dedicated connections between sensor outputs and amplifier inputs. As stated above in the response to arguments, the sensor and amplifier arrangement is formed so that amplifiers have two specific and unchanging inputs connected to the outputs of two sensors within the sensing arrangement. The closest prior art, Yoshida discloses a sensor and amplifier arrangement where the outputs of sensors are selected by switch to connect to the inputs of the amplifiers, at different time intervals different sensors are

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connected to the amplifier; therefore, the teachings of Yoshida fail to anticipate or render the above underlined limitations obvious.

Independent claim 59 and related dependent claim 19 identify the uniquely distinct features "respectively non-neighboring sensors per amplifier being selected such that different object positions generate outputs at different combinations of amplifiers thereby permitting different amplifier combinations to be decoded to individual sensors". The closest prior art, Yoshida discloses using only 2 amplifiers able to be read for each of the input sensor wires through selectable inputs for the amplifier. Rather than using multiple amplifiers, each assigned to specific input sensors, Yoshida uses a few amplifiers able to obtain inputs from selectable input sensors, thus Yoshida fails to anticipate or render the above underlined limitations obvious.

Independent claim 72 identifies the unique feature of "the distance between said first and second sensor is larger than the effective range of the signal transmitted by said object." This is drawn to purposely selecting the sensor wires to be provided to the amplifiers to be physically located far enough apart that only one of the wires would be able to receive a signal from the emitting object. The closest prior art, Yoshida fails to provide such a requirement to the measurement of the signals of the sensor arrangement.

Dependent claim 62 identifies the unique feature "wherein said excitation arrangement is operable to use a state of said object to set dynamically controllable property". This is drawn to the input object having multiple states based on button presses or similar and the different signals from the input object providing different

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excitation methods based on the measured property. The closest prior art, Yoshida and Weiner fail to provide an input device with switchable states that affect the excitation pulses used to excite the sensor arrangement.

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven E. Holton whose telephone number is (571) 272-7903. The examiner can normally be reached on M-F 8:30-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amr Awad can be reached on (571) 272-7764. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Steven E. Holton
Division 2629
February 4, 2007

AMR A. AWAD
SUPERVISORY PATENT EXAMINER

